IN THE CLAIMS:

The listing of claims replaces all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A computer implemented method comprising:

determining a Point to Point Protocol over Ethernet (PPPoE) client to be multicast capable upon detection of a PPPoE multicast capable tag in a PPPoE active discovery request (PADR) received from the PPPoE client;

determining a layer 2 multicast ~~channel~~ address from a layer 3 multicast ~~channel~~ address;

notifying the PPPoE client of the layer 2 multicast ~~channel~~ address;

receiving multicast traffic;

encapsulating the multicast traffic with PPPoE that identifies the multicast traffic as a PPPoE multicast session; and

transmitting the multicast traffic for the layer 2 multicast ~~channel~~ address as PPPoE multicast traffic in a single PPPoE multicast session from a network element to a consumer premise equipment coupled to the PPPoE client.

2. (Currently Amended) The computer implemented method of claim 1 wherein the layer 2 multicast ~~channel~~ address is an Ethernet Media Access Control

(MAC) address and the layer 3 multicast ~~channel~~ address is an Internet Protocol (IP) address.

3. (Canceled)

4. (Currently Amended) The computer implemented method of claim 1 wherein Point to Point Protocol over Ethernet (PPPoE) multicast traffic identifies a PPPoE multicast session identifier and the layer 2 multicast ~~channel~~ address.

5. (Currently Amended) The computer implemented method of claim 1 further comprising the Point to Point Protocol over Ethernet (PPPoE) client listening for PPPoE multicast traffic on the layer 2 multicast ~~channel~~ address.

6. (Currently Amended) The computer implemented method of claim 1 further comprising the Point to Point Protocol over Ethernet (PPPoE) client decapsulating multicast traffic from PPPoE if the PPPoE client is listening on the layer 2 multicast ~~channel~~ address.

7. (Currently Amended) A computer implemented method comprising:

determining a Point to Point Protocol over Ethernet (PPPoE) client to be multicast capable upon detection of a PPPoE multicast capable tag in a PPPoE active discovery request (PADR) received from the PPPoE client;

translating a layer 3 multicast ~~channel~~ address to a layer 2 multicast ~~channel~~ address;

receiving a multicast packet;

encapsulating the multicast packet with a Point to Point Protocol over Ethernet (PPPoE) encapsulation; and

indicating the layer 2 multicast ~~channel~~ address in the PPPoE encapsulation;

indicating a PPPoE multicast session identifier in the PPPoE encapsulation;

transmitting the PPPoE encapsulated multicast packet from a network element to a customer premise equipment coupled with a plurality of hosts as a single PPPoE multicast session as a single PPPoE multicast session~~;~~

~~decapsulating the PPPoE encapsulated multicast packet when the layer 2 multicast channel address is the desired layer 2 multicast channel address~~.

8. (Currently Amended) The computer implemented method of claim 7 wherein the layer 2 multicast ~~channel~~ address is an Ethernet Media Access Control address.

9. (Currently Amended) The computer implemented method of claim 7 wherein the layer 3 multicast ~~channel~~ address is an Internet Protocol address.

10. (Previously Presented) The computer implemented method of claim 7 wherein the Point to Point Protocol over Ethernet (PPPoE) multicast session identifier is a reserved PPPoE session identifier.

11. (Original) The computer implemented method of claim 7 wherein the multicast packet is a video packet.

12. (Original) The computer implemented method of claim 7 wherein the multicast packet is a collaboration application packet.

13. (Currently Amended) A network element comprising:

a control engine to host a Point to Point Protocol over Ethernet (PPPoE) process, to receive a PPPoE multicast capable tag in a PPPoE active discovery request (PADR), and to translate a layer 3 multicast ~~channel~~ address to a layer 2 multicast ~~channel~~ address; and

a forwarding engine coupled with the control engine, the forwarding engine to receive a multicast packet encapsulated with a delivery protocol, to decapsulate the multicast packet from the delivery protocol encapsulation, to encapsulate the multicast packet in a PPPoE encapsulation, to indicate the layer 2 multicast ~~channel~~ address in the PPPoE encapsulation, to indicate a PPPoE multicast session identifier in the PPPoE encapsulation, and to transmit the PPPoE encapsulated multicast packet as a single PPPoE multicast session between a

consumer premise equipment coupled with a plurality of hosts and the network element.

14. (Original) The network element of claim 13 wherein the control engine comprises a set of one or more processors and a memory.

15. (Original) The network element of claim 13 wherein the forwarding engine comprises a set of one or more processors and a memory.

16. (Original) The network element of claim 13 wherein the delivery protocol is Asynchronous Transfer Mode.

17. (Currently Amended) An apparatus comprising:

a network interface card to receive traffic and to listen for multicast traffic on a layer 2 multicast ~~channel~~ address;

a Point to Point Protocol over Ethernet (PPPoE) module coupled with the network interface card, the PPPoE module to indicate multicast capability with a PPPoE multicast tag in a PPPoE active discovery request (PADR), to indicate to the network interface card the layer 2 multicast ~~channel~~ address, to receive PPPoE encapsulated multicast traffic on the layer 2 multicast ~~channel~~ address from the network interface card, to decapsulate multicast traffic from PPPoE; and

a processor coupled with the PPPoE module, the processor to process multicast traffic decapsulated by the PPPoE module.

18. (Currently Amended) The apparatus of claim 17 wherein the layer 2 multicast ~~channel~~ address is an Ethernet Media Access Control address.

19. (Original) The apparatus of claim 17 wherein multicast traffic is streaming video.

20. (Original) The apparatus of claim 17 wherein multicast traffic is traffic of a collaboration application.

21. (Currently Amended) A system comprising:

a network element coupled with a consumer premise equipment (CPE) to receive a Point to Point Protocol over Ethernet (PPPoE) multicast capable tag in a PPPoE active discovery request from a plurality of hosts coupled to the CPE, to transmit notification of a multicast address, to translate the multicast's layer 3 ~~channel~~ address to a layer 2 ~~channel~~ address, to decapsulate traffic of the multicast from a first delivery protocol, to encapsulate traffic of the multicast with Point to Point Protocol over Ethernet (PPPoE), to indicate a PPPoE multicast session identifier and the layer 2 ~~channel~~ address in the multicast's PPPoE encapsulated traffic, to further encapsulate the multicast's PPPoE encapsulated traffic with a second delivery protocol, and to

transmit the multicast's PPPoE encapsulated traffic as a single PPPoE multicast session to the CPE;

~~a customer premise equipment (CPE) coupled with the network element,~~ the CPE to decapsulate the multicast's PPPoE encapsulated traffic from the second delivery protocol and to transmit the multicast's PPPoE encapsulated traffic to each of the plurality of hosts; and

~~a host coupled with the CPE,~~ the plurality of hosts to receive the multicast's PPPoE encapsulated traffic, to determine if the host is listening for the layer 2 ~~channel~~ address indicated in the multicast's PPPoE encapsulated traffic, and to decapsulate the multicast's traffic from PPPoE if the host is listening on the indicated layer 2 ~~channel~~ address.

22. (Original) The system of claim 21 wherein the multicast is a streaming video.

23. (Original) The system of claim 21 wherein the multicast is a collaboration application.

24. (Currently Amended) The system of claim 21 wherein the layer 2 ~~channel~~ address is an Ethernet Media Access Control address.

25. (Currently Amended) The system of claim 21 wherein the layer 3 ~~channel~~ address is an Internet Protocol address.

26. (Previously Presented) The system of claim 21 wherein the Point to Point Protocol over Ethernet (PPPoE) session identifier is a reserved PPPoE session identifier.

27. (Previously Presented) The system of claim 21 further comprising a bridge coupled with the network element, the bridge to receive the multicast's Point to Point Protocol over Ethernet (PPPoE) encapsulated traffic further encapsulated with the second delivery protocol and to transmit the multicast's PPPoE encapsulated traffic further encapsulated with the second delivery protocol to the customer premise equipment (CPE).

28. (Currently Amended) A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

requesting a Point to Point Protocol over Ethernet (PPPoE) session;

transmitting an indication of PPPoE multicast capability;

receiving notification of a layer 3 multicast ~~channel~~ address for a multicast;

generating a layer 2 multicast ~~channel~~ address from the layer 3 multicast ~~channel~~ address;

receiving a packet of the multicast, the packet having a PPPoE encapsulation;

if the PPPoE encapsulation indicates a PPPoE multicast session, then

determining if the PPPoE encapsulation indicates the layer 2 multicast ~~channel~~ address;

decapsulating the packet from the PPPoE encapsulation if the PPPoE encapsulation indicates the layer 2 multicast ~~channel~~ address; and

discarding the packet if the PPPoE encapsulation does not indicate the layer 2 multicast ~~channel~~ address.

29. (Previously Presented) The machine-readable medium of claim 28 wherein requesting the Point to Point Protocol over Ethernet (PPPoE) session comprises transmitting a PPPoE Active Discovery Request (PADR) message to an access concentrator.

30. (Previously Presented) The machine-readable medium of claim 28 wherein the indication of Point to Point Protocol over Ethernet (PPPoE) multicast capability is a tag in a PPPoE Active Discovery Request (PADR).

31. (Previously Presented) The machine-readable medium of claim 28 wherein the Point to Point Protocol over Ethernet (PPPoE) multicast session is identified by a reserved PPPoE session identifier.

32. (Original) The machine-readable medium of claim 28 wherein the multicast is streaming audio.

33. (Original) The machine-readable medium of claim 28 wherein the multicast is streaming data for a ticker.

34. (Currently Amended) A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

determining a Point to Point Protocol over Ethernet (PPPoE) client to be multicast capable upon detection of a PPPoE multicast capable tag in a PPPoE active discovery request received from the PPPoE client;

generating a layer 2 multicast ~~channel~~ address from a layer 3 multicast ~~channel~~ address;

receiving a multicast packet for the layer 3 multicast ~~channel~~ address;

encapsulating the multicast packet with a Point to Point Protocol over Ethernet (PPPoE) encapsulation;

indicating in the PPPoE encapsulation the layer 2 multicast ~~channel~~ address and a PPPoE multicast session identifier; and

transmitting the PPPoE encapsulated multicast packet from a network element to a consumer premise equipment coupled with a plurality of hosts as a single PPPoE multicast session.

35. (Original) The machine-readable medium of claim 34 wherein the layer 2 multicast ~~channel~~ address is an Ethernet Media Access Control address.

36. (Original) The machine-readable medium of claim 34 wherein the layer 3 multicast ~~channel~~ address is an Internet Protocol address.

37. (Previously Presented) The machine-readable medium of claim 34 wherein the Point to Point Protocol over Ethernet (PPPoE) multicast session identifier is a reserved PPPoE session identifier.